National Renewable Energy Laboratory
Solicitation for Letters of Interest (LOI) No. RAX-3-33628

"PV Manufacturing R&D - Large-Scale Module and Component Yield, Durability, and Reliability"

REQUEST FOR LETTERS OF INTEREST

READ THIS DOCUMENT CAREFULLY

This solicitation is being conducted under the streamlined procedures for competitive Letters of Interest established by the National Renewable Energy Laboratory (NREL). NREL will select a LOI for potential subcontract award based on the following.

- All requirements being met
- The best combination of:
  - Technical factors (based on qualitative merit criteria) and
  - Evaluated cost

Issue Date: 04/21/03 Due Date: 07/15/03 Time Due: 5:00 p.m. Mountain Time

Technical Questions must be received in writing no later than 06/21/03

1. Solicitation Type Best Value Letters of Interest

Submit offers to and request information from the NREL LOI Contact below

2. NREL LOI Contact

Submit LOI to and request information from the NREL LOI Contact

Christie Johnson, Subcontract Administrator
MS 2713
National Renewable Energy Laboratory
1617 Cole Boulevard
Golden, CO 80401-3393
Phone: (303) 384-7394
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Electronic (PDF) copies of forms, sample subcontract, and appendices can be found at:
http://www.nrel.gov/contracts/index.html

3. Background

The U.S. Department of Energy (DOE), in cooperation with the U.S. Photovoltaics (PV) Industry, has the objective of retaining and enhancing U.S. leadership in the world PV market. To further this objective, in 1990 DOE initiated an effort to conduct research and development on PV manufacturing process issues. The purpose of the Photovoltaic Manufacturing Technology Project (PVMaT) portion of the PV Manufacturing R&D Project was to form a partnership between DOE and the U.S. PV industry, assisting in the improvement of module manufacturing processes and in the substantial reduction of module manufacturing cost. The goals of the project were to improve PV manufacturing processes and products for terrestrial applications, accelerate PV manufacturing cost reduction, lay the foundation for significantly increased production capacity, and assist the U.S. industry in retaining and enhancing its world leadership role in the commercial development and manufacture of terrestrial PV systems. The focus of the program emphasized research and development (R&D) of manufacturing process issues. Five solicitations have been completed since its inception and work on a sixth solicitation is well underway. These solicitations addressed, respectively: (1) process-specific R&D on PV module manufacturing (open only to companies that successfully completed a preliminary problem-definition phase); (2) generic research on problems of interest to all, or to a large portion of the PV industry; (3) process-specific R&D on PV module manufacturing; (4) product-driven PV manufacturing R&D addressing problems as in (2) and (3) above, as well as manufacturing improvements for balance-of-systems (BOS) components and system design improvements; (5) PV module manufacturing technology and PV system and component technology; and (6) PV manufacturing in-line diagnostics and intelligent processing in manufacturing scale-up and BOS.

This solicitation is a continuation of the PV Manufacturing R&D Project, which can further accelerate the achievements of the PVMaT Project. The goals are to improve PV manufacturing processes and products while reducing costs, provide a technology foundation that supports significant manufacturing scale-up (500 MW total U.S. capacity), and position the U.S. industry to meet rapidly emerging large-scale deployment and other markets. The solicitation is designed to be impartial to the various PV technologies and manufacturing approaches and any LOI meeting the preparation guidelines (Section 13 below) and addressing the goals of the PV Manufacturing R&D project will be considered responsive to this solicitation.

4. Objectives

"PV Manufacturing R&D – Large-Scale Module and Component Yield, Durability, and Reliability" requests Letters of Interest (LOIs) from individual or teamed U.S. PV and related industries to address a range of topics relating to the manufacture of PV modules, components and systems. The proposed work areas may include, but will not be limited to, issues such as improvement of module manufacturing processes to increase module reliability; system and system component packaging, system integration, manufacturing and assembly; product manufacturing flexibility; and balance-of-system development including storage and quality control. The primary focus is the enhancement of module, system component, and complete system reliability.

As photovoltaic technology becomes better positioned to be a more significant contributor to the world's electricity generation mix, the reliability of the technology will be a key factor in the acceptance of the technology by utilities and other end users. Although PV systems are much simpler than many conventional generation technologies, PV systems still consist of a number of electrical and mechanical components that must be manufactured and subsequently integrated into a complete system. This variety of electronic and mechanical components, once assembled into a system, represent a system that must provide high-quality, reliable power. As the market demand for PV modules and systems has grown, NREL and the PV industry have partnered, through the PV Manufacturing R&D project, to ensure that the growing markets can be served. In addition to simply meeting demand, this partnership took a significant step in the Project's sixth solicitation to address product yield and quality by supporting the introduction of intelligent process controls into manufacturing lines. This solicitation endeavors to take a second, more significant and deliberate step in supporting the PV industry in ensuring that production volume increases are matched by increases in product quality and therefore field reliability. It is the intention of this request for Letters of Interest to address reliability issues related to PV modules, module manufacturing, and BOS components individually. This request for LOIs will also address design and reliability issues related to complete PV systems ranging from residential rooftop systems to large-scale utility deployments that address the markets reflected in the growing number of state-level renewable portfolio standards.

5. Scope of interest

The PV Manufacturing R&D Project is soliciting LOIs from individual U.S. companies and U.S. teams working in PV and/or related industries to address PV manufacturing issues, from modules through packaging and improvement and installation of PV end-products, including components and BOS elements.

DEFINITIONS:

Team: In this context, a Team is the set of recognized U.S. business entities and educational institutions that submit a particular LOI responding to this solicitation. The specific teaming arrangements are left to the members of the Team. Note that the structure of the Team will be an element considered in the evaluation of the LOI. See Section 9 below.

Primary Team Member: For <u>each</u> LOI, the entity with which NREL will subcontract if an award, based on that LOI, results from this solicitation. A Primary Team Member may be either a Majority Team Member or a Minority Team Member. <u>Educational institutions may not be Primary Team Members.</u>

Majority Team Member: For an LOI, any Team Member who will receive 50% or more of the National Renewable Energy Laboratory (NREL) funding if an award results from that LOI. Note that a Majority Team Member may or may not be a Primary Team Member. <u>Educational institutions may not be Majority Team Members</u>.

Minority Team Member: For an LOI, any Team Member(s) who will receive less than 50% of the NREL funding if an award results from that LOI. Educational institutions may participate only as Minority Team Members.

U. S. Industrial Organization For purposes of this request for LOIs, a U.S. Industrial Organization is defined as a business incorporated or formed as a legal entity in the United States.

This request for LOIs is divided into two Categories: PV Manufacturing R&D—PV System and Component Technology; and—PV Module Manufacturing Technology. Responders may propose in either or both Categories.

Category A—PV System and Component Technology: Includes manufacturing improvements directed toward innovative, low-cost, high-return, high-impact PV products. This Category of the LOI focuses on manufacturing generally related to PV system components and aspects other than modules, such as energy storage, inverters, and/or system integration efficiency and/or design improvements, with emphasis on reliability. Also of interest are new integrated PV products, demonstrating improved design and advances in functionality as well as a focus on improved field reliability. Additionally, the Responder may address issues in system-component integration that bring all elements together for a PV product that is offered on the market. The approach can be through any means the Responder can demonstrate meets the project goals of reducing total life-cycle costs, expanding production capacity, and increasing product reliability. The approach may be a vertically integrated organization or company, or a Team that incorporates elements from Team Members. It may also be a systems integration approach in which a lead firm develops PV products using a variety of PV modules and BOS components. Thus, packaging the elements into a PV product that serves market niches and generates market appeal and acceptance may also be an issue that is addressed. Environment, Safety and Health (ES&H) issues and their remediation apply to all system and component technology areas. Generic PV problems, such as improved encapsulants, packaging, and edge sealing may be proposed in this Category. Another example of this might be a teamed proposal addressing a raw material supply problem through identification of new supplies, new supply processes, or improved efficiency of material usage or an industry/utility Team focused on the most cost-effective and reliable way to meet the multi-megawatt requirements of renewable portfolio standards.

Category B—PV Module Manufacturing Technology: Includes, but is not limited to, R&D in module manufacturing processes and the manufacturing, assembly, and integration of systems to build a PV module, as well as the packaging of that product to meet market requirements and increase reliability. The Responder should include module manufacturing R&D as a substantial portion (50% or more) of the effort with emphasis on the development of manufacturing processes capable of large-scale production, improved product yield, and increased product reliability. Examples of issues in this area would include PV cell and module processing rates, process controls, continuous automation, encapsulation yield, throughput, and scaling to larger areas. Material utilization efficiency,

substitution of more cost-effective and reliable materials, ES&H issues and their remediation, and introduction or increased use of automation and robotics are also manufacturing aspects that apply to all areas of PV module manufacturing.

In response to this request for LOIs, Responders may address either Category A, Category B, or both. A Responder may be a Primary Team Member and a Majority Team Member for no more than two LOIs. There will be no more than one award to any Responder as the Primary Team Member or the Majority Team Member. (See definitions above.) Responders are encouraged to team. A U.S. Industry Organization may be a Minority Team Member for any number of LOIs submitted to either or both Categories A and B. Thus a U.S. Industry Organization may be a Minority Team Member for three proposals, for example, and the Primary Team Member and the Majority Team Member for two additional LOIs. U.S. Educational Institutions may be a Minority Team Member for any number of LOIs submitted to either or both Categories A and B. In all cases the Primary Team Member must clearly specify the applicable Category A or B when the LOI is submitted. Any Response that includes a duplication of work currently or previously funded by DOE or other US Government organization will not be considered non-responsive and will not be evaluated.

This solicitation is intended to be impartial relative to PV technologies and manufacturing approaches. It is open to only **U.S. Industry Organizations and U.S. Educational Institutions**, with activities related to the manufacturing of PV products, systems and components. Teams may be formed to take advantage of the diverse expertise of businesses and individuals that are not exclusively associated with but are nevertheless relevant to photovoltaic product development. That is, participants may be single Responders or Teams that may not typically be associated with PV systems, components, or products, but may have applicable expertise.

6. Qualification requirements

All R&D efforts funded under this project shall be performed in the United States or its territories. In addition, each Responder/Team Member must be a U.S. Industry Organization or U.S. Educational Institution and the LOI shall so state.

Since this program is intended to assist U.S. industry in improving its position as a world leader in PV, the success of this program and the achievement of its goals will be measured in the marketplace. Consequently, it is important that the PV Manufacturing R&D project be structured to expedite the utilization of new PV R&D, and be directed toward expected market demand. Therefore, an additional goal of this project is to help incorporate the special requirements of potential large PV users (e.g., utilities), as well as niche requirements with the potential for significant future demand, into the U.S. PV industry's efforts. LOIs may be submitted independently by a single Responder or by a Primary Team Member with Majority and Minority Team Member participation. While not a requirement of this LOI, Responders are encouraged to team with other U.S. Industry Organizations and U.S. Educational Institutions. All Team Members must be U.S. Industry Organizations or U.S. Educational Institutions.

R&D projects proposed under this solicitation may be industry-wide generic issues or process-specific projects that are largely unique to a technology or product and the Responder(s). Projects for this solicitation may be proposed by any U.S. Industry Organization related to PV manufacturing. Collaborative efforts are encouraged. A Primary Team Member may include assistance from other U.S. Industry Organizations such as industrial firms, architects, industrial designers, utilities, marketing organizations and U.S. Educational Institutions, through lower-tier subcontracts with the Primary Team Member. Responders and Team Members may be from fields not exclusively identified with the PV industry, but have expertise that is directly related to PV technologies and products.

An integral part of the proposal is the business strategy. This strategy should be sufficient to establish that the Responder has, or intends to establish, guidance from the potential customers of the product, system or component. The strategy should also establish that the Responder's management supports and contributes to the advancement of the technology and has a realistic vision of progress through 2006 and beyond.

As stated, the PV Manufacturing R&D Project is intended to be impartial relative to PV technologies and manufacturing approaches. Each LOI will be evaluated on its own qualitative merit and its promise for contribution to the program goals, independent of the other projects that might be considered for funding. There is no commitment to spread the awards among a number of technologies. The R&D activities funded under this solicitation will receive periodic technical reviews by qualified technical consultants and by staff of DOE's implementing laboratories, the NREL and Sandia National Laboratories (SNL). The LOI responses and subcontracts developed under the PV Manufacturing R&D project will be implemented and administered by the NREL Contracts & Business Services Office.

The Responder shall conduct its operations in an environmentally safe manner. The improvement of operations to further reduce waste streams and conduct operations in a safe work environment may be elements in the proposed work effort.

7. Potential subcontract award and available project funding

It is the intent of NREL to award a total of approximately 12 subcontracts under this solicitation. The intent is to make several awards in Category A, PV System and Component Technology, that largely address non-module aspects of the PV product manufacturing process, and several awards under Category B, PV Module Manufacturing Technology, that primarily address aspects of the module manufacturing process. The number of awards in each Category and the total number of awards may vary based on the LOIs received and the availability of funds. NREL reserves the right to make any number of awards in either Category or to make no awards under this solicitation. It is anticipated that the program funding available for all awards under this solicitation will be approximately $10 million on an annual basis. Of that total, approximately one-third will be committed to Category A, and approximately two-thirds will be devoted to Category B. There is no commitment by NREL to award a particular number of subcontracts or to award a particular dollar value for any subcontract awarded. NOTE: A Responder may be a Primary Team Member and a Majority Team Member for no more than two LOIs. There will be no more than one award to any Responder as the Primary Team Member or the Majority Team Member.

Funding for potential awards is based on availability of DOE funding and on programmatic considerations as determined by DOE and NREL. It is the intent of NREL to make multiple cost shared subcontract awards under this solicitation. All subcontracts will be incrementally funded to allow for technical review of the subcontractor's progress and in accordance with federal funding, which is provided on a fiscal year basis (October 1 – September 30).

This solicitation for LOIs is for R&D on PV manufacturing, system design and testing, etc. It is not intended to fund the acquisition of production line equipment. **Therefore, there are no capital equipment funds available under this solicitation.** Capital equipment is defined as equipment with a unit value of $25,000 or more, including applicable shipping and installation charges, and having a life expectancy of two years or more.

A *minimum* of 50% cost share is required for an award. Cost sharing is defined as a percentage of the total allowable and allocable costs under the subcontract, which may be met by contributions by the Subcontractor and by contributions from the Subcontractor's lower-tier subcontractors or suppliers at no cost to NREL. All costs must be allowable and allocable under the terms of the Federal Acquisition Regulations and DOE Acquisition Regulations.

U.S. Educational Institution involvement is desirable in addressing many of the R&D issues (which may vary from material deposition problems to robotic improvements). Cost sharing can be waived for each U.S. Educational Institution member for subcontract portions to be performed by the Educational Institution of up to 10% of the total Primary subcontract. For example, on a $100 K subcontract with a business and the involvement of two universities, each of which receives a $10 K lower-tier subcontract, $60 K could be cost-shared by NREL and $40 K by the business. (This is calculated by removing the university portion from the total – $100k-$20k = $80k – and calculating the cost share based on the remaining $80k – 50% of $80k = $40k.) Responders are encouraged to propose higher levels of cost sharing. Higher levels of cost sharing will be given additional consideration during the evaluation process.

It is planned that any resultant subcontract will be for one of the following sets of conditions:

<u>Category A–PV System and Component Technology</u>
Subcontracts under this Category will be awarded for a period of performance of up to three (3) years. It is anticipated that the NREL funding level per subcontract under Category A will not exceed $500,000 per 12-month period, with a maximum total for the subcontract not to exceed $1.0 million. If an LOI exceeds NREL's identified limit, any amount over the limit is expected to be 100% cost shared by the Responder(s).

<u>Category B–PV Module Manufacturing Technology</u>
Subcontracts under this Category will be awarded for a period of performance of up to three (3) years. It is anticipated that the NREL funding level per subcontract under

Category B will not exceed $1 million per 12-month period, with a maximum total for the subcontract not to exceed $3 million. If an LOI exceeds NREL's identified limit, any amount over the limit is expected to be 100% cost shared by the Responder(s).

Individual subcontracts under this solicitation for LOIs will be awarded for up to three (3) years. Subcontracts will be funded on a year-to-year basis and subject to available funding and the technical progress of the effort as determined by NREL and DOE. Proposed efforts should be divided into distinct 12-month phases with well-defined tasks, milestones, and deliverables under each phase. During subcontract negotiations, the prospective subcontractor and NREL will mutually agree upon specific milestones and deliverables for each year of the subcontract. Continued funding for subsequent phases will be based on research progress, the availability of funds, and programmatic needs. The subcontractor's failure to meet the negotiated milestones and deliverables could result in the follow-on phases not being authorized. It is NREL's intent to award any resultant subcontract on an incrementally funded basis subject to the availability of funds from DOE for Fiscal Years 2004, 2005, and 2006.

8. Competitive solicited Letters of Interest using Best Value Selection

This solicitation shall be conducted using Best Value Selection that results in the selection of LOIs for potential subcontract award that is most advantageous to NREL based on the best value combination of (a) evaluated qualitative merit and (b) evaluated cost of the LOIs submitted.

Best Value Selection is based on the premise that, if all LOIs are of approximately equal qualitative merit, award will be made to the LOIs with the lowest evaluated cost. However, NREL will consider selecting an LOI with a higher evaluated cost if the offer demonstrates the difference in cost is commensurate with the higher qualitative merit. Conversely, NREL will consider selecting an LOI with a lower evaluated qualitative merit if the cost differential between it and other LOIs warrant doing so.

9. Qualitative merit criteria for Best Value Selection

The scope of interest (see item 5) and the qualification requirements (see item 6) in this solicitation serve as NREL's baseline requirements that must be met by each letter of interest.

The qualitative merit criteria (see 9.1 – 9.4 below) establish what NREL considers the technical factors valuable in an LOI. These qualitative merit criteria are performance-based and permit selection of the LOIs that provides higher qualitative merit for a reasonable, marginal increase in cost.

The following qualitative merit criteria will be used by evaluators to determine the technical value of the offer in meeting the objectives of the solicitation.

Each qualitative merit criteria and its assigned weight are provided below.

9.1. Quality and Relevance of the Proposed Technical Plan (40%)

What is the potential of the technology/system/end product to achieve the goals defined for the PV Manufacturing R&D project and those identified in the Responder's LOI? Are the technical objectives and plans clearly stated, achievable and technically feasible? As demonstrated in the technical plan, what is the likelihood that the problems proposed for this effort will be solved? What is the significance of the improvement(s) estimated for the proposed effort? What is the suitability of the Responder's proposed manufacturing technology for near-term advancements and manufacturing cost benefits as of (1) now through 2004, (2) three years from now (2006), and (3) six years from now (2009)?

9.2. Technical Capability of the Responder/Team (30%)

Does the Responder have the technical knowledge and experience to accomplish the stated objectives and goals? What is the experience and record of success of the Responder – both generally and on previous DOE/NREL subcontracts specifically? Are the company's resources adequate to implement the proposed project? If proposing as a Primary Team Member, do the other Team Members have the appropriate knowledge and experience to fulfill their role in the team? What is the experience and record of success of the other Team Members? Are the skills and experiences of the Team Members complementary, leading to a Team that is more capable of addressing the objectives and goals than any one of the Team Members individually?

9.3. Quality and Relevance of the Proposed Business Strategy (20%)

Is the proposed business strategy structured to contribute to, support, and take advantage of decreasing production costs? Are the assumptions made in the business strategy reasonable? What is the likelihood that the long-range business strategy will be successful? Are the risks identified and accurately assessed? Does the strategy demonstrate sufficient commitment, capabilities, and resources to achieve the Responder's goals and to ensure that the improvements made under the proposed effort would reach the marketplace?

9.4. Environment, Safety and Health Requirements (10%)

Are considerations for ES&H problems adequately described and addressed, including complete identification and proposed mitigating actions. Are plans included that reduce waste streams or propose alternatives to reduce use of toxic/hazardous substances?

10. Additional Factors for Evaluation

In addition to the qualitative merit criteria above, each LOI will be evaluated against other programmatic factors to determine the competitive range and final negotiation rank order. Programmatic factors include funding, number of responders in the competitive range, and the short/long-term goals of the Program. These factors are not weighted.

11. Cost evaluation for Best Value Selection

After evaluation of the qualitative merit criteria and additional factors for evaluation, the following cost evaluation will be used to determine the best value of the LOI in meeting the objectives of the solicitation. Note that the combined qualitative merit value will be considered substantially more important than the cost.

11.1. Reasonableness of the total estimated cost and the individual cost elements that comprise the total estimated cost.

11.2. Responder's demonstrated understanding of the project based on the cost estimated to perform the work.

11.3. Responder's demonstrated understanding of the risk involved based on the estimated cost proposed.

11.4. Reasonableness of the estimated cost proposed in relation to the magnitude and significance of the work to be performed.

11.5. Responder's level of cost sharing.

12. Evaluation process

NREL will evaluate responses to this Request for LOIs in two general steps:

Step One - Initial Evaluation
An initial evaluation will be performed to determine if all required information has been provided for an acceptable LOI. Responders may be contacted only for clarification purposes during the initial evaluation. Responders shall be notified if their LOI is determined not acceptable and the reasons for rejection will be provided. Unacceptable LOIs will be excluded from further consideration.

Step Two - Discussion and Selection
All acceptable LOIs will be evaluated against the scope of interest and the qualification requirements; the qualitative merit criteria, additional factors, and cost evaluation listed above. Responders selected through the best value selection process will be contacted with the intent to negotiate an acceptable Statement of Work, based on the Responder's LOI. Subsequently, NREL will issue a Request for Proposal for a technical and cost proposal based on this developed Statement of Work.

13. LOI preparation information

LOIs should be arranged in the following order. The total response should not exceed 25 pages (excluding the Representations and Certifications).

13.1. Title Page - The LOI must include a title page, which should incorporate the Request for LOI title and number, name of your organization and principal investigator (with postal address, telephone and fax numbers, and email address). The title should be

succinct and capture the essence of your LOI. It should be clear which Category is being addressed by the LOI – Category A – PV Manufacturing R&D-System and Component Technology, and/or Category B – PV Manufacturing R&D-PV Module Manufacturing Technology.

13.2. Statement of Work – 15 pages maximum
(See www.nrel.gov/contracts/index.html for template)
The proposed Statement of Work should form the bulk of the response to the LOI and should contain the major portion of the technical proposal. It should include the technical discussion of approaches and should be presented in sufficient detail to permit a comprehensive evaluation. It should also contain, as a minimum, the following sections:

- Background
- Objectives
- Scope of Work
- Program Plan
- Milestones and Deliverables

13.3. Business Strategy – 3 pages maximum
This strategy should be sufficient to establish that the Responder has, or intends to establish, guidance from the potential customers of the product, system or component. (See Section 9.3. above.)

13.4. References and Bibliography – 2 pages maximum
Relevant references may be cited, but do not include copies of reference articles in the submission.

13.5. Resumes – 2 pages maximum
Abbreviated resumes of one or two key personnel.

13.6. List of Contracts – 1 page maximum
Selected list and brief description of Government or NREL contracts or subcontracts related to the field covered by this LOI that the Primary Team Member and/or Majority Team Member has been awarded in the past five (5) years, to include the contracting agency's name, the contract or subcontract amount, and a brief description of the project.

13.7. A completed Cost Estimate Sheet (see attached) – 1 page maximum
The cost estimate should include all categories of the proposed budget and include totals for each year and the total of all years. Your estimated budget and delivery terms must be valid for 180 days from the date your LOI.

13.8. Representations and Certifications
A completed "Representations and Certifications" form in an original and 15 copies submitted with your LOI (http://www.nrel.gov/contracts/related_docs.html).

Formatting instructions are as follows:
- A page is defined as one side of an 8 ½" x 11" sheet of paper.
- Use a 12-point font.
- Maintain at least 1-inch margins on all sides.
- Copies may be either single or double sided, but should be double-side where practical.

Each LOI submission must contain an **original and 15 copies** directed toward meeting the requirements of the solicitation. You should provide only the minimum amount of information required for proper evaluation. Keep your LOI as brief as possible, and concentrate on substantive information.

Please note that this solicitation does not allow the submittal of facsimile or electronic proposals. Also, this solicitation does not commit NREL to pay costs incurred in the preparation and submission of a response to this request for LOI.

14. Solicitation Provisions

a. Late submissions, modifications, and withdrawals of LOIs

LOIs, or modifications to them, received from qualified organizations after the latest date specified for receipt may be considered if received prior to selection, and NREL determines that there is a potential budget, technical, or other advantage, as compared to the other LOIs received. However, depending on the circumstances surrounding the late submission or modification, NREL may consider a late LOI to be an indication of the respondent's performance capabilities, resulting in downgrading of the LOI by NREL evaluators in the technical evaluation process. LOI may be withdrawn by written notice or telegram (including mailgram) received at any time before selection. LOIs may be withdrawn in person by a Responder or an authorized representative, if the representative's identity is made known and the representative signs a receipt for the LOI before selection.

b. Restrictions on disclosure and use of data

Responders who include in their LOIs data that they do not want disclosed to the public for any purpose or used by the government or NREL, except for evaluation purposes shall—

1. Mark the title page with the following legend:
   "This LOI includes data that shall not be disclosed outside the government or NREL and shall not be used or disclosed—in whole or in part—for any purpose other than to evaluate this LOI. If, however, a subcontract is awarded to this Responder as a result of—or in connection with—the submission of this data, the government or NREL shall have the right to use or disclose the data to the extent provided in the resulting subcontract. This restriction does not limit the government or NREL's right to use information contained in this data if obtained from another source without restriction. The data subject to this restriction are contained on pages [insert page and line numbers or other identification of pages] of this LOI"; and

2. Mark each page of data it wishes to restrict with the following legend:
   "Use or disclosure of data contained on this page is subject to the restriction on the title page of this LOI."

c. Notice of right to receive patent waiver (derived from DEAR 952.227-84) and technical data requirements.

Responders (and their prospective lower-tier subcontractors) in accordance with applicable statutes and Department of Energy Acquisition Regulations, (derived from DEAR 952.227-84) have the right to request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of the subcontract that may be awarded as a result of this solicitation, in advance of or within thirty (30) days after the effective date of subcontracting. Even where such advance waiver is not requested or the request is denied, the subcontractor will have a continuing right during the subcontract to request a waiver of the rights of the United States in identified, individual inventions.

Domestic small business firms, educational institutions, and domestic nonprofit organizations normally will receive the Patent rights clause—retention by the subcontractor—which permits the offeror to retain title to subject inventions, except in subcontracts involving exceptional circumstances or intelligence activities. Therefore, domestic small business firms, educational institutions, and domestic nonprofit organizations normally need not request a waiver.

If a Responder's proposal includes a lower-tier subcontract to another organization, that lower-tier organization's business type will determine the applicable intellectual

property provisions that will apply to the lower-tier subcontract. Note that a lower-tier subcontractor may apply for a patent waiver under the same conditions as the Responder.

Under a research, development, and demonstration project, the Department of Energy and NREL are unable to ascertain, prior to receipt of LOIs, subsequent proposals, or performance of the project, their actual needs for technical data. It is believed that the requirements contained herein are the basic needs of the Department of Energy and NREL. However, if the Responder indicates in its LOI or subsequent proposal that proprietary data will be used or withheld under its proposed effort, the government and NREL reserve the right to negotiate appropriate rights to the proprietary data. The appropriate rights may include "Limited Rights in Proprietary Data" and/or "Subcontractor Licensing."

d. Disclaimer

NEITHER THE UNITED STATES; NOR THE DEPARTMENT OF ENERGY; NOR MIDWEST RESEARCH INSTITUTE, NATIONAL RENEWABLE ENERGY LABORATORY DIVISION; NOR ANY OF THEIR CONTRACTORS, SUBCONTRACTORS, OR THEIR EMPLOYEES MAKE ANY WARRANTY, EXPRESS OR IMPLIED, OR ASSUME ANY LEGAL LIABILITY OR RESPONSIBILITY FOR THE ACCURACY, COMPLETENESS, OR USEFULNESS FOR ANY PURPOSE OF ANY OF THE TECHNICAL INFORMATION OR DATA ATTACHED OR OTHERWISE PROVIDED HEREIN AS REFERENCE MATERIAL.

e. Solicitation disputes

The General Accounting Office and the Department of Energy do not accept or rule on disputes for solicitations for Letters of Interest issued by Management and Operating Contractors for the Department of Energy (operators of Department of Energy National Laboratories). Should a Responder have any concerns regarding the NREL solicitation process or selection determination, the offeror may contact Marty Noland, Advocate for Commercial Practices, at (303) 384-7550. NREL will address each concern received from an offeror on an individual basis.

f. (Lower-Tier) Small Business Subcontracting Plan (derived from FAR 52.219-9)

The following requirement <u>does not</u> apply to small business Responders.

The selected Responders to this solicitation shall include in their proposals a lower-tier subcontracting plan that separately addresses lower-tier subcontracting with small business, small disadvantaged business, women-owned small business, and veteran-owned small business concerns and Hubzones. If the Responder is submitting an individual subcontract plan, the plan must separately address lower-tier subcontracting with small business, small disadvantaged business, women-owned

small businesses, veteran-owned small businesses and Hubzones, with a separate part for the basic subcontract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant subcontract. The lower-tier subcontracting plan shall be negotiated within the time specified by the NREL Subcontract Administrator. Failure to submit and negotiate a lower-tier subcontracting plan shall make the Responder ineligible for award of a subcontract (see NREL website).

15. Solicitation provisions—incorporated by reference—general access

This solicitation incorporates one or more solicitation provisions by reference with the same force and effect as if they were given in full text. The following documents can be downloaded from the NREL **general access** website at http://www.nrel.gov/contracts/related_docs.html or the NREL LOI Contact (see item 2) will make full text available upon request.

- NREL Representations and Certifications for Subcontracts
- NREL Small Business (Lower-Tier) Subcontracting Plan Requirements

16. NAICS Code and Small Business Size Standard

a. The North American Industry Classification System (NAICS) code [formerly standard industrial classification (SIC)] for this solicitation is 54171.

b. The small business size standard for 54171 is 500 or fewer employees.

Letters of Interest Cost Estimate Sheet for RAX-3-33628 – [COMPANY NAME]

Description	Year I	Year II	Year III	3Year Total
A. Direct Materials ($)				
B. Direct Labor ($)				
C. Labor Overhead & Fringe ($)				
D. Special Testing ($)				
E. Special Equipment +				
F. Travel ($) ++				
G. Consultant(s)/Lower-tier Subcontractor(s) ($)				
H. Other Direct Costs ($) (e.g., Publications, etc.)				
I. G&A ($) (Specify rate)				
J. **TOTAL ESTIMATED COST ($)**				
K. PROFIT/FIXED FEE				
L. Responder's Cost Share				
M. NREL's Cost Share				

\+ Capital Equipment Funds are not available for this solicitation. Equipment can be included in respondent's Cost Share

++ Note that foreign travel requires pre approval from the Department of Energy and special reporting requirements.